Before the
Federal Communications Commission
Washington, D.C. 20005

In the Matter of	)	
	)	
Implementation of Section 304 of the Telecommunications Act of 1996	)	CS Docket No. 97-80
	)	
Commercial Availability of Navigation Devices	)	
	)	
Compatibility Between Cable Systems and Consumer Electronics Equipment	)	PP Docket No. 00-67

OPPOSITION TO GENESIS MICROCHIP, INC.'S PETITION FOR RECONSIDERATION BY SILICON IMAGE, INC.

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OPPOSITION TO GENESIS'S PETITION FOR RECONSIDERATION

I. Introduction

Silicon Image, Inc. ("Silicon Image"), by its counsel, and pursuant to Section 1.429 of the Commission's rules, submits this Opposition to Genesis Microchip Inc.'s ("Genesis") Petition for Reconsideration of the Second Report and Order in the above captioned proceeding.[1] Silicon Image designs, develops and markets multi-gigabit semiconductor and system solutions for a variety of communications applications demanding high-bandwidth capability. Founded in 1995, Silicon Image has quickly grown into a leading provider of innovative solutions for personal computers, consumer electronics, storage and networking industry segments. Silicon Image is publicly traded, employs approximately 250 people (the majority of which are engineers and technical personnel) and is located in Sunnyvale, California. Silicon Image actively participated in the development of the Digital Visual Interface ("DVI") and High Definition Multimedia Interface ("HDMI") specifications, has intellectual property involved in both specifications and develops semiconductor products implementing both specifications. Silicon Image will be directly affected by the outcome of this proceeding.

Silicon Image asks the Commission to deny Genesis's petition for reconsideration of the Plug & Play Order, with respect to the requirement that unidirectional cable television devices may not be labeled or marketed as "digital cable ready" unless they employ a DVI or HDMI

[1] Second Report and Order and Second Further Notice of Proposed Rulemaking in CS Docket No.97-80 and PP Docket No. 00-67, *Implementation of Section 304 of the Telecommunications Act of 1996; Commercial Availability of Navigation Devices and Compatibility Between Cable Systems and Consumer Electronics Equipment,* Adapted October 9, 2003 ("Plug & Play Order").

digital display interface. As the Commission correctly concluded in the Plug & Play Order, the DVI and HDMI specifications are "widely available to the marketplace today...and these technologies are freely offered on non-discriminatory terms."[2] The Commission conducted a thorough and in-depth investigation with respect to these issues and clearly complied with Section 629 of the Communications Act.[3] The DVI and HDMI specifications were developed by a large and diverse group of companies; IBM, NEC, Fujitsu, Hewlett Packard, Intel and Silicon Image with respect to the DVI specification and Philips, Hitachi, Matsushita, Sony, Thomson, Toshiba and Silicon Image with respect to the HDMI specification. Genesis's petition for reconsideration is inaccurate, misleading, and simply an unwarranted attempt by a disgruntled competitor to delay the pro-competitive benefits of the DVI and HDMI specifications. Silicon Image respectfully requests that the Commission deny Genesis's petition for reconsideration and reject Genesis's requests for specific relief.

II. Background

Silicon Image believes it is important to respond to Genesis's erroneous statements and to set the record straight regarding the development of the DVI and HDMI specifications. Genesis is attempting to relitigate a dispute it already lost in federal court. Genesis also complained to the Federal Trade Commission ("FTC"), but after looking into the matter, the FTC closed its investigation without taking any action. Now, Genesis is attempting to relitigate this dispute yet gain; this time before the FCC. Given that the Commission has, on a well-developed record, already found that the DVI and HDMI specifications are widely available in the marketplace, it should not reconsider its well reasoned and factually well-grounded policy at the whim of one disgruntled competitor.

A. DVI

The DVI technology was developed by computer manufacturers and semiconductor companies to create a digital interface between monitors and a personal computer. Silicon Image worked with the Digital Display Working Group ("DDWG"), which is an open industry group chaired by Intel and whose other promoters include, IBM, NEC, Fujitsu, Hewlett Packard and Silicon Image, to develop a digital upgrade to the existing analog interface between a personal computer and a monitor. The DDWG was formed at the 1998 Intel Developer's Forum and is designed to address the industry's requirements for a digital connectivity specification for high-performance personal computers and digital displays. Since the DDWG was established, the group developed a digital visual interface ("DVI") 1.0 specification in April 1999. After creating this DVI specification, the DDWG granted a royalty-free, worldwide, perpetual license for the DVI specification to any company to use for personal computer applications. The DVI Adopters Agreement, which Genesis and many other companies signed, clearly states that the scope of the license is specifically limited to the interface between digital displays and a computer.[4] Genesis and other companies, by signing this agreement, had prior knowledge that the royalty-free

[2] Plug & Play Order at Para. 25.

[3] 47 U.S.C. § 549 ("Section 629")

[4] *See*, Appendix 1 of Genesis's Petition for Reconsideration

license that Silicon Image granted for DVI 1.0 was limited to necessary claims and to the field of computer interfaces and was not applicable to consumer electronics applications. Therefore, Genesis could not have reasonably relied on any alleged Silicon Image statements prior to or after signing the Adopters Agreement to believe that Genesis had a license to use the DVI 1.0 specification in consumer electronics applications.

When consumer electronics companies later approached Silicon Image about obtaining a license for the DVI specification for consumer electronics applications, Silicon Image granted licenses on reasonable terms. Genesis is the only company that decided not to take a license for consumer electronics applications. Subsequently, Silicon Image brought an infringement suit against Genesis, alleging infringement of non-necessary patent claims as well as a violation of the licensed field of use. Genesis lost the infringement suit and agreed to pay reasonable royalties to use the DVI technology for consumer electronics applications.

Moreover, in 2001, the Consumer Electronics Association ("CEA"), which represents more than 650 companies involved in the design, development, manufacturing, and distribution of audio, video, mobile electronics, and other communications and multimedia products, formed a working group within the R 4.8 DTV Interface Subcommittee to help define a DVI interface for consumer electronics applications and to educate consumers on its possible applications. Participants in the working group included Silicon Image, Genesis, Broadcom, Hitachi, and several other companies. Despite Genesis's attempts to force the working group to adopt its own technology, the CEA adopted the superior DVI specification. This competition took place as part of a fair, open, and ANSI compliant process. The CEA, as the Commission found, later included the DVI specification as a normative reference in a CEA standard.

B. HDMI

In April 2002, Matsushita Electric, Philips, Silicon Image, Sony, Thomson, and Toshiba formed a working group to develop a next generation digital interface for consumer electronic applications. These companies released a final HDMI 1.0 specification on December 9, 2002. Compared with the older DVI technology, the HDMI specification combines high-definition video and multi-channel audio in a single interface. The CEA developed a standard relying on the additional capabilities provided by the HDMI specification.

III. The Commission Correctly Concluded that DVI and HDMI Technologies are Widely Available in the Marketplace and Adopters Agreements Are Offered on Non-Discriminatory Terms.

The Commission properly found that the technology underlying the DVI and HDMI specifications is widely available in the marketplace today and the Adopters Agreements for these technologies are freely offered on non-discriminatory terms.[5] The DDWG, grants a royalty-free, worldwide, perpetual license for the DVI specification to any company that signs the DVI Adopters Agreement. Similarly, the HDMI founders, have licensed on reasonable and non-discriminatory terms the HDMI specification to any company that signs an HDMI Adopters

[5]Plug & Play Order at Para. 25

Agreement. Moreover, it is important to recognize that under the HDMI licensing program, Silicon Image's competitors (i.e., chip makers) are not required to pay any royalties for use of the HDMI specification. Rather, under the HDMI licensing program, only the final integrator of an HDMI product,[6] not the manufacturer of the video interface chip, pays a royalty to the licensing agent.[7] Thus, all adopters compete on a level playing field. In addition, the technology embodying both the DVI and HDMI specifications is widely available in the marketplace today. Today there are hundreds of consumer electronics products at retail that incorporate DVI and HDMI technologies. Further, although Genesis is mistaken in concluding that Commission policy requires FCC standards to follow ANSI procedures, both the DVI and HDMI specifications were in fact developed and licensed in ways consistent with ANSI policy and past Commission precedent.

A. DVI

Because Silicon Image (and others) freely license necessary claims relating to the DVI 1.0 specification, Silicon Image has not obtained any competitive advantage, and consumers have benefited from the wide availability of this technology. The DDWG process benefited consumers by creating a new interface specification that improved the technology for the display of digital images for computers.

As described above, contrary to Genesis's misleading assertions in its petition for reconsideration, participants in the DDWG and adopters of DVI 1.0 were clearly aware that the DVI 1.0 specification was a computer display standard and did not apply to consumer electronics applications. Genesis is the only company that attempted to unlawfully exceed the clear restrictions of the DVI Adopters Agreement, and Genesis is the only company that any DDWG member has brought suit against. No DDWG member, including Silicon Image, has brought suit or has any pending patent infringement lawsuits against any other company with respect to the DVI specification. Genesis is the only company that has disputed the scope and interpretation of the license contained in the DVI Adopters Agreement.

Although the DVI Adopters Agreement limits the DVI 1.0 specification for computer displays, the underlying technology has been widely licensed for consumer electronics applications. As the Commission noted in the Plug & Play Order, the DVI technology for consumer electronics applications is "widely available in the marketplace today."[8] As of January 2004, approximately 500 models of DTVs, Set Top Boxes and DVD players included a DVI port. The many consumer products, including digital television sets, that have been sold with a DVI interface demonstrates that the DVI technology is available for licensing on reasonable terms.

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[6] For example, a high definition television or a digital set top box.

[7] Currently, the plan is that the ownership of the licensing entity will be reevaluated after three years by which time each founder or adopter has had time to evaluate their existing patent portfolios and to have patents issued on inventions made during the development that contain necessary claims.

[8] Plug & Play Order at Para. 25

B. HDMI

Through the HDMI licensing agent, the HDMI working group provides a license to any company on reasonable and non-discriminatory terms for the use of this next generation digital video and audio specification for consumer electronic applications. In little over 12 months since the release of the specification, there are greater than 100 HDMI-capable models announced or available at retail and both Silicon Image and Toshiba have HDMI semiconductor products actively on the market, with more competitors to come. In addition, nearly 80 companies have become HDMI Adopters to date, including over a dozen semiconductor companies besides Silicon Image and the semiconductor divisions of the other HDMI founding companies. The HDMI licensing program consists of an annual fee and a royalty rate per unit, comparable to the licensing terms for other technologies such as IEEE 1394 and MPEG-2.

IV. The Adoption of the DVI and HDMI Specifications Comply with Section 629 of the Telecommunications Act.

The Commission correctly concluded that the adoption of the DVI and HDMI specifications are consistent with past Commission practice and consistent with Section 629 because the specifications have been the subject of due process standards processes. Although the Commission does not require that technologies incorporated into FCC standards be developed consistent with ANSI procedures, the DVI and HDMI specifications were developed consistent with ANSI procedures and policy.

Although the DDWG is not an official ANSI accredited standard-setting organization, the DDWG was, and continues to be, open to any company wishing to join, and most importantly the DDWG developed a specification, without a royalty payment, in compliance with Section 629 of the Communications Act. The ANSI Policy, Section 1.1 states that:

> "[p]articipation shall be open to all persons who are directly and materially affected by the activity in question. There shall be no undue financial barriers to participation. Voting membership on the consensus body shall not be conditional upon membership in any organization, nor unreasonably restricted on the basis of technical qualifications or other such requirements."[9]

Second, with respect to the DVI specification, the Commission found that the DVI specification had " been included in normative references in standards that have under gone the ANSI process."[10] The CEA, as the Commission found, is an ANSI-accredited standards-setting organization and has a clear patent disclosure policy requiring the early disclosure of any patents and pending patents that might bear on a standard under development. The CEA's adoption of the DVI specification is strong evidence that this specification did in fact result from a formal standard setting process. The R4.8 DTV Interface Subcommittee of the CEA based the CEA-861 standard, "A DTV Profile for Uncompressed High Speed Digital Interfaces," on the DVI

[9] ANSI Essential Requirements: Due Process Requirements for American National Standards (2003).

[10] Plug & Play Order at Footnote 66.

specification produced by the DDWG.[11] Of all the companies participating in the development of CEA-861, only one company, Genesis, complained about the adoption of the DVI specification.

Similarly, the R4.8 Subcommittee developed a subsequent version of the CEA-861 standard, CEA-861-B, which relies on the HDMI specification for implementation of certain features that were added to it. CEA 861-B defines the data structures, called InfoPackets, that allow a Source device to communicate to a DTV the aspect ratio, colorimetry and other auxiliary information regarding the transmitted audio and video data. HDMI allows CEA-861-B to be implemented by providing the transport mechanism to carry the format data from the Source to the DTV. HDMI is the only interface available today that can carry the CEA-861-B InfoPackets.

The HDMI founders did not have a formal patent disclosure policy. To the extent any "informal policy" existed, the upshot was that the HDMI founders agreed among themselves at a future time to review which patents are necessarily infringed by complying with the specification, and to license necessary patent claims to any company on reasonable and non-discriminatory terms.[12] During this process, Silicon Image followed this "informal" policy and did not mislead any HDMI participants. Moreover, the HDMI founders presented a draft of the specification to over 100 companies to review and comment on prior to developing the final version of the HDMI specification.

Genesis, as a disgruntled competitor, has made several unsuccessful attempts to raise fraud and antitrust claims against Silicon Image in federal court in connection with the process of developing the DVI specification at the DDWG and the CEA. A federal judge dismissed Genesis's fraud claim against Silicon Image, even after giving Genesis multiple opportunities to try to replead that claim. Moreover, Genesis settled the patent infringement suit with Silicon Image, under circumstances where Genesis acknowledged that it needed a license to practice the claims of Silicon Image's patents to implement DVI interfaces in consumer electronics products, and Silicon Image granted Genesis a license to do so on reasonable terms.[13] After signing up for a license, Genesis spent a year trying to renege on the deal, attempting to renegotiate a better one. Not only did the federal judge hearing that case rebuff Genesis's attempt to wriggle out of the signed deal, that judge ultimately held Genesis in civil contempt for its actions during the course of the dispute. Having been denied the opportunity to walk away from the deal it struck, Genesis is now desperately looking for some other forum, such as the FCC, in which to retaliate.

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[11] http://www.ce.org/press_room/press_release__detail.asp?id=8433.

[12] The adopters, too, are invited to advise of any patents they may have which they believe contain intellectual property necessary to comply with the specification, and grant reciprocal rights to necessary patent claims.

[13] The FTC closed its informal investigation of Silicon Image's conduct during the development of the DVI and HDMI specifications which it opened at Genesis instigation. Genesis inaccurately states that the FTC had begun an investigation into the "anticompetitive nature of the DVI licensing process." In fact, the FTC never opened a formal, public investigation into this issue.

V. The Commission Should Deny Genesis's Request for Public Disclosure of DVI and HDMI Patents.

Genesis's request for full disclosure of all patents, pending patents, necessary claims, and licensing terms and conditions related to the DVI and HDMI specifications is contrary to Commission practice and unnecessary. As described above, the Commission found that the DVI specification was adopted as a normative reference in a standard during a process that required the mandatory listing of all patents, all pending patents, and all necessary claims to implement these specifications. Moreover, the Commission found that both the DVI and HDMI specifications are widely available in the marketplace and offered on reasonable and non-discriminatory terms.

Moreover, the DVI and HDMI Adopters agreements, clearly delineate the specific terms and conditions associated with such patents, and both adopters agreements provide for licensing on reasonable and non-discriminatory terms. Genesis is the only company that has resisted complying with these terms. As described above, both the DVI and HDMI specifications are therefore consistent with ANSI policy and Commission policy. If a third party complains in the future that these technologies are not being licensed on reasonable and non-discriminatory terms, the Commission had the ability to consider those complaints at that point in time and to take any remedial action if necessary.[14] In the future, the Commission is free to consider and adopt competing technologies if it chooses. Therefore, the Commission should deny Genesis's requests for modification of the Second Report and Order in this proceeding.

VI. Conclusion

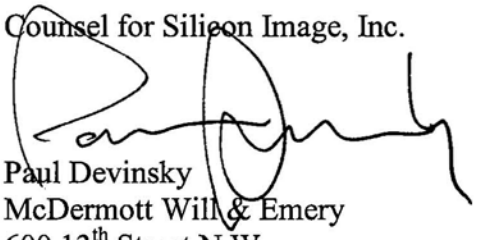
The Commission vigorously conducted a detailed investigation and appropriately found that the DVI and HDMI technologies are widely available in the marketplace today and that adoption of these specifications for digital cable television devices is consistent with Commission policy. By denying Genesis's petition for reconsideration of the Commission's well-reasoned initial decision, the Commission will enable consumers to obtain quickly the benefits of these technologies for consumer electronic applications.

[14] *Advanced Technical Systems and Their Impact Upon the Existing Television Broadcast Service*, 6 FCC Rcd 7024, 7034 (1991)

For the reasons described above, Silicon Image urges the Commission to deny Genesis's Petition for Reconsideration of the portion of the Plug & Play Order requiring unidirectional digital cable television devices labeled or marketed as "digital cable ready" to employ a DVI or HDMI digital display interface.

Respectfully Submitted

Counsel for Silicon Image, Inc.



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March 10, 2004

CERTIFICATE OF SERVICE

I, Paul Devinsky, hereby certify that a true and correct copy of the Opposition to Genesis's Petition for Reconsideration in CS Docket No. 97-80 and PP Docket No. 00-67 by the Silicon Image, Inc., was served on the following parties on March 10, 2004, by first-class mail, postage prepaid:

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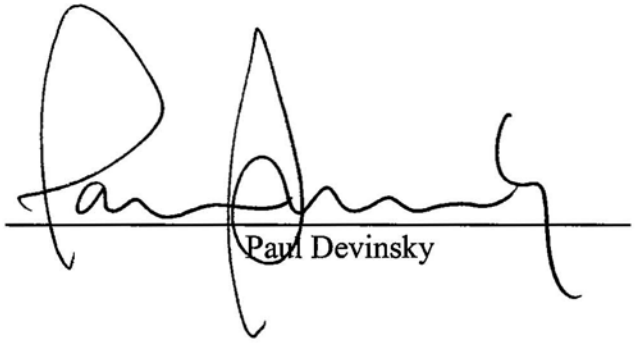

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